UNITED STATES PATENT AND TRADEMARK OFFICE

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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
Office Action Summary		09/638,828	FRIEDMAN, GEORGE
		Examiner	Art Unit	
		Mary J. Steelman	2122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *8/14/2000, 7/23/2002*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-23* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *14 August 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____ .
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____ .
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-23 are pending.

Specification

2.   The use of trademarks, as one example: 'Enterprise JAVA beans', has been noted in this

application. They should be capitalized wherever they appear and be accompanied by the

generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary

nature of the marks should be respected and every effort made to prevent their use in any manner

which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

4.   Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing

to particularly point out and distinctly claim the subject matter which applicant regards as the

invention.

5.   Regarding claim 6, the phrase "approximately" renders the claim indefinite because the

claim includes elements not actually disclosed (those encompassed by "approximately the same

time"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Objections

6.   7.35.01 Trademark or Trade Name as a Limitation in the Claim

Claim 20 contains the trademark/trade name ENTERPRISE JAVA BEAN. Where a trademark

or trade name is used in a claim as a limitation to identify or describe a particular material or

product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph.

See Ex parte Simpson, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the

trademark or trade name cannot be used properly to identify any particular material or product.

A trademark or trade name is used to identify a source of goods, and not the goods themselves.

Thus, a trademark or trade name does not identify or describe the goods associated with the

trademark or trade name. In the present case, the trademark/trade name is used to

identify/describe a byte-code software component and, accordingly, the identification/description

is indefinite.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

8.   Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent

6,574,578 B1 to Logan, in view of US Patent 6,523,027 B1 to Underwood.

Per claim 1:

A method of remotely testing a computerized application under test over a computer network,

the method comprising the steps of:

(Logan: Col. 2, lines 20-22, "...method...for utilizing a server to coordinate component

testing...")

-providing test code that exercises a component of the application under test;

(Logan: Col. 3, lines 27-28, "...component testing that automates test case code generation...")

-executing a first instance of the test code across a network on the remote application under test;

(Logan: Col. 3, lines 30-32, "...performs the testing on a client workstation...", col. 4, lines 27-

29, "...testing in the integrated test environment is then performed (executing a first instance of

the test code)...")

-recording performance data on the component of the remote application under test;

(Logan: Col. 6, line 23, "...the outcomes of the test cases are stored...")

-analyzing the recorded performance data to indicate a performance characteristic of the

component of the remote application under test.

(Logan: Col. 2, lines 44-45, "...documenting (indicate a performance characteristic) and

tracking software defects discovered (analyzing)in the course of testing..."Col. 3, lines 59-62,

"...capturing test results (recorded performance data) and reporting them on a Website on the

Web server...", col. 6, line 29, "regression testing" (indicates a performance characteristic))

Logan disclosed a network involved in testing, Logan's test code was run on a client. Logan

failed to show explicitly "executing a first instance of the test code across a network..." and

specific "performance characteristics". However, Underwood disclosed (col. 1, line 65)

"interaction between components in the system" and recognized that changes made to

components may affect an application (col. 2, lines 31-34). Underwood disclosed a (col. 143,

lines 3-10 and FIG. 57) "Performance Testing Environment". Underwood disclosed Java

programming language testing that could be automated (col. 185, lines 31 and 59), looping

through all classes and comparing the output (col. 186, lines 2-3). More specifically Underwood

disclosed (col. 208, lines 60-65), "The web/application server is configured with the current

assembly test versions...and is connected to a test workstation, a source code repository and a

database server. Thus, Underwood more specifically disclosed "executing a first instance of the

test code across a network..." Furthermore, Underwood more specifically disclosed

'performance characteristics' that could be analyzed (col. 214, line 66-col. 215, line 4:

Definition, Target, Frequency of collection an evaluation...).

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the

invention to modify Logan's invention to more specifically disclose that a server, holding test

code, is used to execute tests across a network, and to more specifically disclose some examples

of performance characteristics that may be collected, because both references refer to testing

code that is being developed or modified for use in a client / server environment and therefore

tests that are executed across a network and indicate performance characteristics provide a

reliable technique for replicating and documenting real-time performance.

Per claim 2:

-executing at least one additional instance of the test code across the network on the remote application under test.

(Logan: Col. 6, lines 62-64, "...test skeleton program that systematically exposes all protected methods, constructors and attributes, and makes calls to all methods contained in a subject class (executes at least one additional instance of the test code).", col. 7, lines 27-29, "...background automated tests, interactive automated tests, and automatic checklist processing..." Logan disclosed a plurality of tests to be executed.)

Per claim 3:

-synchronizing the execution of one instance of the test code with another instance of the test code.

Logan suggested that related test cases are synchronized into an execution plan but failed to explicitly show synchronization of execution. Logan: Col. 3, lines 29-30, "a test suite refers to a collection of related test cases...", col. 4, lines 46-47, "...desired partition and associated test suites for performing the test are selected...", col. 4, line 57, "...runs the test suite (runs / synchronizing the execution of the selection of test instances)..."

However, Underwood provided a more specific reference at col. 218, lines 55-60, where he disclosed simulating concurrent (synchronized) users.

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention to modify Logan's invention to more specifically disclose 'synchronizing the execution with a plurality of test code', because both references refer to testing code that is being developed or modified for use in a client / server environment and therefore tests that simulate synchronized code provide a reliable technique for replicating and documenting real-time performance.

Per claim 4.

-generating test code automatically.

(Logan: Col. 3, lines 26-28, "...automates test case code generation...")

Per claim 5:

-the application under test is written in an object oriented language and the step of providing test code comprises providing test code to exercise one object in the application.

(Logan: Col. 6, lines 50-54, "...automatic test case code generator...testing components, e.g., JavaBeans, each executable class within the component must be tested...", col. 6, lines 62-64, "...systematically exposes all protected methods, constructors and attributes, and makes calls to all methods contained in a subject class...")

Per claim 6:

Logan suggested (Col. 7, lines 27-32), "...background automated tests, interactive automated

tests, and automatic checklist processing..." which could include starting test code at

approximately a same time, but failed to explicitly discuss this feature.

However, Underwood provided more of a suggestion of "synchronizing comprises starting each

instance of the test code at approximately a same time" Col. 218, line 55-col. 219, line 5

discloses tests replicating concurrent users, which indicates synchronized test instances starting

at approximately the same time.

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the

invention to modify Logan's invention to more specifically disclose 'synchronizing the

execution with a plurality of test code', because both references refer to testing code that is being

developed or modified for use in a client / server environment and therefore tests that simulate

synchronized code provide a reliable technique for replicating and documenting real-time

interactions of a web site performance.

Per claim 7:

Logan suggested "analyzing includes preparing a graphical display having as an independent

variable the number of instances of the test code and the dependent variable is the performance

data". Logan: Col. 7, lines 45-47, "...captures responses...", col. 9, lines 23-24, "...posts the

test results..." However Logan failed to explicitly disclose "analyzing includes preparing a

graphical display having as an independent variable the number of instances of the test code and

the dependent variable is the performance data".

However, Underwood more explicitly disclosed that graphs could be produced and analyzed.

Col. 217, lines 60-67, "After the scenario has completed its run, the performance graphs may be

generated and shown to the tester automatically. The tester can then analyze the graphs and

reports available. Graphs should be available that provide individual page averages, complete

scenario execution times, and high/low response times."

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the

invention to modify Logan's invention to more specifically disclose 'a graphical display

including the number of instances of the test code and performance data, because both references

refer to testing code that is being developed or modified for use in a client / server environment

and therefore results displayed from tests that simulate synchronized code provide a reliable

technique for visualizing performance when replicating and documenting real-time interactions

of a web site performance.

Per claim 8:

-analyzing includes preparing a graphical display ...

(Logan: Col. 9, lines 39-46, "...integrated test environment may be extended to provide utility

classes to instrument code, perform lint-like code clean-up, enforce coding standards, support

conditional compilation, do method signature deprecation analysis..." Logan disclosed

analyzing the results. A graphical display is prepared in the form of Web pages (col. 9, line 28).)

Logan failed to disclose "graphical display having as an independent the number of instances of the test code and the dependent variable derived from the performance data."

However, Underwood suggested a graphical display of a number of instances of test code and a relationship to performance data. Col. 217, lines 60-67, "After the scenario has completed its run, the performance graphs may be generated and shown to the tester automatically. The tester can then analyze the graphs and reports available. Graphs should be available that provide individual page averages, complete scenario execution times, and high/low response times."

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention to modify Logan's invention to more specifically disclose 'a graphical display including the number of instances of the test code and performance data, because both references refer to testing code that is being developed or modified for use in a client / server environment and therefore results displayed from tests that simulate synchronized code provide a reliable technique for visualizing performance when replicating and documenting real-time interactions of a web site performance.

Per claim 9:

-the application under test is resident on a first server on the network and the application has a remote interface and the test code is resident on at least a second computer on the network and exercises the application under test using the remote interface of the application under test.

Logan: See FIGs. 1 & 3. Logan's invention places an application under test resident at a

developer's site. A test is developed at a server of a testing environment. The test is delivered to

a client workstation to be executed. Remote interfacing of the servers is involved. Logan failed

to specifically disclose that test code is resident on at least a second computer on the network and

exercises the application under test using the remote interface of the application under test.

However, more explicitly, Underwood disclosed an application under test, including servers and

a network, using a remote interface. Test code is resident on at least a second compute on the

network. See Underwood FIGs. 72B and 73.

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the

invention to modify Logan's invention to more specifically disclose 'application under test is

resident on a first server on the network and the application has a remote interface and the test

code is resident on at least a second computer on the network...", because both references refer

to testing code that is being developed or modified for use in a client / server environment and

therefore results of code tested over a network interface could provide reliable performance data,

to better understand the interactions.

Per claim 10:

-analyzing includes displaying the analyzed data to a human user using a graphical user

interface.

(Logan: Col. 9, lines 27-29, "The Web server provides the report Web pages generated

(displayed using a graphical user interface)...")

Per claim 11:

A method of remotely testing a computerized application under test, the method comprising the

steps of:

(Logan: See FIGs. 1 & 3, col. 2, line 20, "...method...")

a) specifying test conditions through a user interface to a test system;

(Logan: Col. 4, lines 36-37, "The testing initiates via a suitable Web page browser interface...",

col. 4, lines 46-47, "...desired partition and associated test suites for performing the test are

selected...")

b) initiating through the user interface to the test system the gathering of test data on the

performance of a at least one component of the remote application under test;

(Logan: Col. 4, lines 36-37, "The testing initiates via a suitable Web page browser interface...")

c) specifying through the user interface to the test system the output format of the test data;

(Logan: Col. 4, lines 46-47, "...desired partition and associated test suites for performing the

test are selected...", col. 9, lines 39-46, "...integrated test environment successfully performs

component testing...may be extended to provide utility classes to instrument code, perform lint-

like clean-up, enforce coding standards, support conditional compilation, do method signature

deprecation analysis…and automatically generate documentation (specifying output format)…")

d) displaying in the specified format the response of at least one component of the remote

application under test.

(Logan: Col. 3, lines 59-62, "…capturing test results and reporting them…", col. 7, lines 16-20,

"…a skeleton test suite program is generated that can then be individualized for specific test

cases of the component and integrates into the testing execution framework to automatically

execute each test case and post test results…(individualized test case / results displayed)", col. 9,

line 28, "provides the report Web pages generated…")

While Logan suggested generating documentation (specifying output format), he failed to

specify what the output would look like. Underwood suggested more explicitly an (col. 217,

lines 60-67) "Analysis of Performance Graphs and Reports."

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the

invention to modify Logan's invention to more specifically disclose 'specifying through the user

interface to the test system the output format of the test data", because both references refer to

testing code that is being developed or modified for use in a client / server environment and

therefore results of code tested over a network interface could provide reliable performance data,

and various types of graphs and reports aids in understanding the interactions.

Per claim 12:

-the specified format is a graphical ...

Logan: Col. 3, lines 59-62, "...capturing test results and reporting them...", col. 7, lines 16-20, "...a skeleton test suite program is generated that can then be individualized for specific test cases of the component and integrates into the testing execution framework to automatically execute each test case and post test results...(individualized test case / specified format)", col. 9, line 28, "provides the report Web pages (specified format) generated...") Logan failed to explicitly disclose, "format indicating response time as a function of load conditions."

However, Underwood disclosed graphical formats and response time. Col. 217, lines 65067, "Graphs should be available that provide individual page averages, complete scenario execution times, and high/low response times."

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention to modify Logan's invention to more specifically disclose 'specifying through the user interface to the test system the output format of the test data", because both references refer to testing code that is being developed or modified for use in a client / server environment and therefore results of code tested over a network interface could provide reliable performance data, and various types of graphs and reports aids in understanding the interactions.

Per claim 13:

Logan suggested that results from testing would be output to a Web page, but failed to specify 'the specified graphical format is a Hi-Lo plot.'

Underwood suggested that graphs may be used to convey results. More specifically, Underwood disclosed graphical formats and response time. Col. 217, lines 65-67, "Graphs should be available that provide individual page averages, complete scenario execution times, and high/low response times."

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention to modify Logan's invention to more specifically disclose 'the specified graphical format is a Hi-Lo plot', because both references refer to testing code that is being developed or modified for use in a client / server environment and therefore results of code tested over a network interface could provide reliable performance data, and various types of graphs and reports aids in understanding the interactions. A hi-lo plot is a type of graph that indicates a range of 'y' values for every 'x' value.

Per claim 14:
-gathering of test data comprises initiating the execution of a plurality of copies of a test program, with the number of copies executing simultaneously relates to a load condition. (Logan: Col. 4, lines 46-47, "Once the ITE client is logged on to the ITE server, the desired partition and associated test suites for performing the test are selected (select a plurality of copies of a test program / initiate execution).

Per claim 15:

-specifying an output format include specifying a method by which response is measured.

Logan: See example of Initialization Tests, including public methods, col. 4, line 65-col. 5, line 7. Output is formatted into HTML web page for presentation, col. 9, line 28. Logan failed to disclose 'response time'.

However, Underwood suggested that response times might be conveyed when formatting test results. Underwood disclosed response time. Col. 217, lines 65-67, "Graphs should be available that provide individual page averages, complete scenario execution times, and high/low response times."

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention to modify Logan's invention to more specifically disclose 'response times', because both references refer to testing code that is being developed or modified for use in a client / server environment and therefore results of code tested over a network interface for response times could provide reliable performance data for understanding the interactions.

Per claim 16:

-gathering test data includes recording the execution time between selected points in the test

program for each simultaneously executing copy of the test program and analyzing the recorded

execution times for all copies of the test program.

(Logan: Col. 7, lines 31-34, "...background tests include those where the expected outcome of

the test is known, so that a simple comparison between the expected outcome and the actual

outcome can be performed..." Gathered data is analyzed. Timed segments is a common type of

background test.)

Per claim 17:

Logan failed to suggest 'analyzing comprises determining the average and maximum execution

times for each of the load conditions.'

However, Underwood suggested analyzing average and maximum execution times when

formatting test results. Underwood disclosed, col. 217, lines 65-67, "Graphs should be available

that provide individual page averages (average for load conditions), complete scenario execution

times, and high/low (maximum execution times) response times."

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the

invention to modify Logan's invention to more specifically disclose 'average and maximum

execution times for each of the load conditions', because both references refer to testing code

that is being developed or modified for use in a client / server environment and therefore results

of code tested over a network interface including average and maximum execution times for each

of the load conditions could provide reliable performance data for understanding the interactions.

Per claim 18:

a) the computerized application under test comprises software resident on a server controlling

access to a computerized database;

(Logan: FIG. 1 #214, database server, #202, ITE (Integrated Testing Environment) server, col.

9, line 23-24, "...ITE server posts the test results as a single transaction to the DB server

(controlling access to a computerized database)...")

b) the server is connected to a network and the application under test is simultaneously accessed

by a plurality of clients over the network;

(Logan: See FIG. 1 – Server connected to a network / plurality of clients. Col. 4, lines 46-47,

"Once the ITE client is logged on to the ITE server, the desired partition and associated test

suites for performing the test are selected...")

c) the test system is resident on at least a second server connected to the network and is located

remotely from said application under test.

(Logan: See FIG. 1, Col. 4, lines 27-29, "testing in the integrated test environment is then

performed via the ITE application server and clients...", col.4, lines 51-57, "The ITE client then

issues test suite staging requests to the ITE server...then runs the test suite.")

Per claim 19:

-application under test includes a plurality of components.

(Logan: Col. 6, lines 52-54, "When testing components (plurality of components)...")

Per claim 20:

-components comprise enterprise Java beans.

(Logan: Col. 6, lines 52-54, "...e.g., JavaBeans...")

Per claim 21:

-each component has a plurality of functions therein and the test code exercises functions of the

components.

(Logan: Col. 6, lines 60-64, "...systematically exposes all protected methods, constructors and

attributes, and makes calls to all methods (test code exercises functions)...")

Per claim 22:

-events at which times are recorded includes times at which commands are issued to access

functions of the components and times at which execution of the commands are completed.

(Logan: Col. 7, lines 31-35, "...background tests include those where the expected outcome of

the test is known...simple comparison...can be performed..." As noted in claim 21 above, all

functions are tested. A background test may test timing.)

Per claim 23:

A system for determining performance of a remotely located application under test in response to

load, the system comprising:

(Logan: Col. 2, line 20, and "system")

a) coordination software;

(Logan: Col. 2, lines 20-21, "...utilizing a server to coordinate component testing in an

integrated test environment...")

b) at least one code generator, receiving as an input commands from the coordination software

and having as an output client test code;

(Logan: Col. 3, lines 26-28, and "automates test case code generation")

c) at least one test engine, receiving as an input commands from the coordination software,

(Logan: Col. 3, lines 26-32, "...an integrated environment for component testing...performs the

testing on a client workstation in conjunction with a system of servers...")

d) at lease one data log having computerized memory, the memory holding timing data created

by the instances of the client test code in the plurality of threads.

(Logan: Col. 7, lines 59-63, "...create a TestLog object ...record test results to a local text

file...posting the test results to the database server...")

Logan's invention, while using a networked testing environment, placed the prepared testing code on the client machine to execute the test and failed specify 'the test engine comprising a computer server having a plurality of threads thereon, each thread executing an instance of the client test code.' More specifically, Underwood disclosed a 'test engine comprising a computer server...executing an instance of the client test code. See FIG. 72B.

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention to modify Logan's invention to more specifically disclose "the test engine comprising a computer server...executing an instance of the client test code...", because both references refer to testing code that is being developed or modified for use in a client / server environment and therefore results in code tested over a network. The testing could be performed to achieve the same test results irregardless of whether it is initiated and executed from a client or from a server.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Steelman, whose telephone number is (571) 272-3704. The examiner can normally be reached Monday through Thursday, from 7:00 AM to 5:30 PM If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan
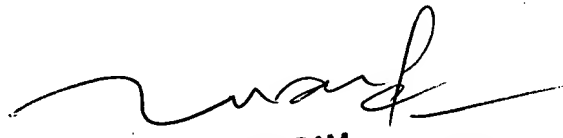
Q. Dam can be reached at (571) 272-3695. The fax phone number for the organization where

this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mary Steelman

02/08/2005

TUAN DAM
SUPERVISORY PATENT EXAMINER